pneumatic tire comprising a pair of bead portions, a pair of sidewall portions, and a crown portion, wherein the crown portion is formed by laying a single mix of tread over the radially outer edges of the sidewall rubber mix to form a circular junction.

The Examiner admits that the reference does not teach a quantitative measurement of the junction point with respect to the carcass structure and the crown as required by the claimed invention, but makes the conclusory assumption that Hashimura '863 provides several measurements that suggests that the tire design meets the limitations of the claimed invention with respect to the junction point, and therefore it would have been obvious to one of ordinary skill in the art to manufacture a tire in accordance with the claimed invention. The Examiner also makes the unsupported assertion that "[i]t is known that [gross relative dimensions] can be obtained from a given drawing even if it is unclear if they are 'working drawings'" and argues that "[t]o further evidence that the dimensions of Hashimura '863 are 'working drawings', it is noted that distances 0.2SH and 0.75SH in Figure 1 are positioned almost exactly at 20% and 75%, respectively, of the height SH." (Office Action, p.4).

Applicant disagrees. Proportions of features in a figure cannot be used as evidence of actual proportions, unless the figure is drawn to scale. M.P.E.P. § 2125. "When the reference does not disclose that the drawings are to scale and is silent as to the dimensions, arguments based on measurements of the drawing features are of little value." M.P.E.P. § 2125, *citing Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 U.S.P.Q.2d 1487, 1491 (Fed. Cir. 2000). "[I]t is well established that patent drawings do not define the precise proportions of the elements and may not be

relied on to show particular sizes if the specification is completely silent on the issue." *Id.*

Here, the drawings in Hashimura '863 cannot be relied upon to provide the dimensions required by the claims because the drawings are not drawn to scale and cannot be considered "working drawings". Contrary to the Examiner's assertion, there is no evidence that Figure 1 in Hashimura is drawn to scale.

Rather, analysis of the Figure shows that the drawing is not to scale. Hashimura states that the tires according to the invention have a size of 175/70R13. ('863 patent, col. 4. line 25.) Thus, the nominal aspect ratio (H/S) of the tire of Hashimura is 70. (175/70R13). However, when the nominal aspect ratio (H/S) of the tire represented in Figure 1 is calculated, an aspect ratio (H/S) of only 64, and not 70, is obtained. For the Examiner's convenience, applicant encloses with this response a document that explains how to measure dimensions and calculate the aspect ration (H/S) and a copy of Figure 1 of Hashimura '863 indicating how the H/S ratio was measured. Because the dimensions of Figure 1 do not correspond to a tire having a size of 175/70R13 as disclosed in the patent, (and indeed, do not even correspond to the dimensions of a normal tire), Figure 1 of Hashimura '863 is not drawn to scale, and cannot be relied upon as evidence of actual proportions or dimensions.

Additionally, the specification states that a portion of the tire is divided into "ten equal parts." ('893 patent, col. 3, lines 38-42). These "ten equal parts" are shown in Figure 1. However, an analysis of the size of the "ten parts" shows that Figure 1 is not drawn to scale as the part between Gi-3 and Gi-4 is much smaller than (and therefore not equal to) the part between Gi-7 and Gi-8.

Moreover, to the extent any numerical dimensions are provided in Hashimura, such dimensions relate to the sidewall of the tire so as to provide a tire with an asummetric structure, and not to the junction point between the carcass structure and the crown. Thus, for the additional reason that there is no indication that the dimensions relating to the junction point are accurately depicted in Figure 1, it is improper to rely on Figure 1 in Hashimura as disclosing the particular dimensions of the claimed invention.

Thus, Hashimura does not teach either limitation (a) or (b), as defined by the Examiner and Hashimura does not render the claimed invention obvious.

Lastly, the Examiner contends that the applicant has failed to provide any unexpected results to establish a criticality for the claimed tire design. (Office Action p. 4). Applicant disagrees that any such showing is required. A *prima facie* case of obviousness has not been established and a showing of unexpected results by the applicant is not required. However, applicant notes that, as explained on page 3 of the instant specification, the position of the junction "permits a serious reduction in the deformation which the circular junction between the tread mix and the sidewall mix undergoes, and consequently substantially improved strength of the bond."

For each of the above reasons, Hashimura '863 cannot render claim 1 obvious and applicant requests withdrawal of the rejection.

The Objection to Claim 1 under 35 U.S.C. § 103 over Matsuyama in view of Arai Should be Withdrawn

Claim 1 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuyama (U.S. Patent No. 3,825,052), in view of Arai (U.S. Patent No. 4,082,132). The Office Action contends that Figure 3 of Matsuyama discloses a heavy

duty tire structure having a pair of bead portions, a pair of sidewall portions, and a crown portion, wherein the crown portion is formed by laying a single mix of tread over the radially outer edges of the sidewall rubber mix to form a circular junction. The Office Action admits that Matsuyama fails to expressly relate the junction point with the equatorial crown radius and the equatorial radius of the carcass structure, but makes the conclusory allegation that, in any event, "Matsuyama and Arai, which is similarly directed to a heavy duty tire, do provide several measurements that suggest that the tire design of the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention."

In particular, the Office Action alleges that Matsuyama states that a distance y1, which is equal to 10% - 30% of the section height (equivalent to equatorial crown radius), separates the junction point from the axially outer edge of the tread. (Office Action, p. 5). Thus, in the embodiment when y1=10% (positively recited embodiment since value is an endpoint), the remaining tire portions (junction radius or height and tread camber) combine to define 90% of the equatorial crown radius. *Id.* As a result, to meet the limitations of the claimed invention, the tread camber needs to be less than 10% of the equatorial crown radius. *Id.* The Office Action then alleges that the Figures of Matsuyama show that the tread camber is extremely small as compared to the section height of the tire, and that Arai suggests that a flat crown region is desired in heavy duty tires in order to prevent belt edge separation and uneven tread wear, and that a flat crown region is analogous to defining a small tread camber. (Office Action, pp. 5-6). Thus, the Office Action concludes that in viewing Matsuyama and Arai, one of ordinary skill in the art at the time of the invention would have readily appreciated that the tread

camber of Matsuyama is less than 10% of the tire section height, such that the resulting junction point height would be between 80% and 90% of the equatorial crown radius.

Additionally, the Office Action, while admitting that Matsuyama fails to provide any specific quantitative dimensions, also alleges that Figure 3 of Matsuyama depicts the junction point as being slightly below the equatorial radius of the carcass structure and therefore, one of ordinary skill in the art would have readily appreciated the junction point as being located at a radial distance that is greater than 90% of the equatorial radius of the carcass structure but less than the equatorial radius of the carcass structure.

Applicant respectfully traverses. Just as in Hashimura, the drawings in Matsuyama are not drawn to scale. There is no evidence that the dimensions disclosed in the figures are accurate, figures cannot be relied upon to teach or suggest the particular dimensions required by present claimed invention.

Rather, an analysis of Figure 3 shows that the Figure is, in fact, not drawn to scale. According to the Matsuyama reference, the distance Y2 should be in a range of 35-45% of H. However, applicant has measured the tire represented in Figure 3 and obtained a measurement of only 33%. Thus, Figure 3 of Matsuyama is not drawn to scale and cannot be used as evidence of actual dimensions relating to the junction point. As a result, Figure 3 does not teach the claim limitations (a) or (b) as defined by the Examiner and Matsuya cannot render the claimed invention obvious. Withdrawal of the rejection of Claim 1 is respectfully requested.

The Objections to Claims 2 and 3 under 35 U.S.C. § 103 Should be Withdrawn

Claims 2 and 3 have been rejected under 35 U.S.C. § 103(a) as being obvious over either Hashimura '863 or Matsuyama in view of Aria, as applied to claim 1 above, and further in view of Hashimura (JP 06032114).

Applicant respectfully traverses. For at least the reasons cited above, the cited art does not render the claimed invention obvious. The cited art does not teach the limitations in claim 1 discussed above, to which claims 2 and 3 depend. Hashimura (JP 06032114) does not cure this deficiency. Thus, for at least this reason, claims 2 and 3 are not obvious over the cited art.

Additionally, claims 2 and 3 require that the circular junction J between the mixes is close to at least one circumferential groove or channel, the mean radius R_r of which is between $R_c + 10mm$ and $R_c - 10mm$, and the depth of which is between 10% and 30% of the total sidewall thickness at the radius R_r. The Examiner admits that Hashimura '863, Matsuyama and Aria do not teach or suggest a circumferential groove in the region adjacent to the junction point. (Office Action, p. 6). However, the Examiner contends that Hashimura '114 depicts a single narrow groove in the shoulder region to reduce rolling resistance and provide anti-cracking properties. The Examiner makes the conclusory assertion that it would have been obvious to include a circumferential groove close to the junction point because it "is well known and conventional to include a circumferential groove in the shoulder region where the junction point occurs."

Applicant traverses. A *prima facie* case of obviousness requires a showing of suggestion or motivation, either in the cited reference or in the ordinary knowledge of those skilled in the art, to modify the cited reference so as to arrive at the

claimed invention. *See, e.g., In re Rouffet*, 149 F.3d 1350, 1355, 47 U.S.P.Q.2d 1453, 1456 (Fed. Cir. 1998) (finding failure to make a *prima facie* case of obviousness absent any evidence of teaching, suggestion or motivation to meet the claimed invention); *see also* M.P.E.P. § 2143. Applicant points out that no teaching or suggestion has been identified within any single cited reference to combine its teachings with those of any other reference. Additionally, no suggestion or motivation has been asserted to be found in the prior art to modify the cited references to reach the claimed invention.

The Examiner has not explained why it would be obvious to combine the position of the junction point according to the claimed invention, with the characteristics of the Hashimura '114 reference about the groove.

Moreover, Hashimura '114 does not teach or suggest a circumferential groove in the region adjacent to the junction point (within 10 millimeters radially outward or inward). The drawings in Hashimura '114 cannot be relied upon to provide any such teaching, as there is no evidence that the drawings are to scale. Rather, the drawings are not drawn to scale. Applicant provides herewith a computer generated English translation of Hashimura '114 obtained from the JPO, which states at the end of the first page that H=0.2SH. Because this figure is not drawn to scale, this figure cannot be used as evidence of particular dimensions.

Additionally, to the extent that the Examiner contends that it is well known in the art to include a circumferential groove in the shoulder region where the junction point occurs and having a depth of between 10% and 30% of the sidewall thickness, applicant disagrees that such knowledge is well known and requests that the Examiner provide proof that such knowledge is well known to one skilled in the art.

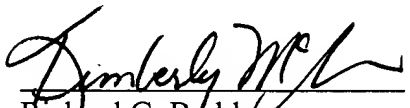
For at least these reasons, claims 2 and 3 are not rendered obvious by the cited art, and withdrawal of the rejection is requested.

CONCLUSION

In view of the foregoing, applicant respectfully requests prompt allowance of the pending claims. A check in payment of the extension of time fee is enclosed. Applicant does not believe that any additional fee is required in connection with the submission of this document. However, should any such fee be required, or if any overpayment has been made, the Commissioner is hereby authorized to charge any fees,

or credit or any overpayments made, to Deposit Account 02-4377. Duplicate copies of this sheet are enclosed.

Respectfully submitted,
BAKER BOTTS L.L.P.

By: 

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